REMARKS

Claims 13-25 are withdrawn from further consideration pursuant to 37 CFR §1.142(b) as being drawn to a nonelected Invention (II). Note claims 1-12 are pending.

The drawings are objected to as failing to comply with 37 CFR §1.84(p)(5). Applicants have amended the figures to address the Examiner's concerns.

Claims 1 and 2 are rejected under 35 USC §102(e) as being anticipated by Little et al., US 6,411,752.

Independent claim 1 recites a method of correcting resonance position or the external decay time of a waveguide micro-resonator comprising physically altering by deposition or growth of material on the core of the waveguide micro-resonator.

Little et al. '752 describes optical resonators that are vertically coupled on top of bus waveguides, and are separated from the waveguides by a buffer layer of arbitrary thickness. The vertical arrangement eliminates the need for etching fine gaps to separate the rings and guides, and reduces the alignment sensitivity between the desired position of the resonator and bus waveguides by a significant degree. The resonator and bus waveguides lie in different vertical layers, and each can therefore be optimized independently.

In particular, Little et al. '752 describes removing portions of a micro-resonator. Claim 1 has been amended to recite that the core is physically altered by way of deposition or growth and not by removing a portion of a ring structure of a micro-resonator. Therefore, Little et al. '752 does not anticipate claim 1 as amended.

Claims 1, 3, 6, 7, and 11 are rejected under 35 USC §102(b) as being anticipated by Kawachi et al., US 4,900,112.

Kawachi et al. '112 describes an integrated optical device which comprises a substrate; a single-mode optical waveguide having a cladding layer disposed on the substrate and a core portion embedded in the cladding layer and for transmitting light therethrough. Stress is applied on a film that is disposed on a desired portion of the cladding layer and for adjusting stress-induced birefringence of the single-mode optical waveguide by irreversibly changing a stress exerted on the core portion by trimming the stress applying film.

Kawachi et al. '112 describes growth of material by laser exposure. The Examiner asserts that the growth is inherent in the conversion of the amorphous silicon film to a polycrystalline silicon film as described in col. 10, lines 27-36. However, Kawachi et al. '112 does not describe correcting resonance position or the external decay time of a waveguide micro-resonator by physically altering the micro-resonator using a deposition or growth of material on the core of the waveguide micro-resonator, as now recited in claim 1. Moreover, the cladding layer 12 of Kawachi et al. '112 is the only thing being physically altered and not the core of their resonator structure. In addition, Kawachi et al. '112 describes the use of trimming to control various optical properties of their structure. Therefore, Kawachi et al. '112 does not anticipate claim 1.

As to claims 3, 6, 7, and 11, they are dependent on claim 1. Therefore, claims 3, 6, 7, and 11 are also allowable for the same reasons argued with respect to claim 1.

Claims 1, 3-5, 8, and 12 are rejected under 35 USC §102(b) as being anticipated by Deacon, US 6,324,204.

Deacon '204 describes a laser source including materials with negative index of refraction dependence on temperature and with temperature independent coincidence between cavity modes and a set of specified frequencies such as DWDM channels in telecommunications

applications. The free spectral range may be adjusted to equal a rational fraction of the specified frequency interval. The operating frequency may be defined by a frequency selective feedback element that is thermo-optically tuned by the application of heat from an actuator without substantially tuning the cavity modes. The operating frequency may be induced to hop digitally between the specified frequencies. Tuning may also be accomplished by means of applying an electric field across a liquid crystal portion of the waveguide structure within the grating.

Deacon '204 does not address the issues of physically altering the core of a micro-resonator, as recited in claim 1. In particular, Deacon '204 describes using a hybrid tunable laser chip that includes waveguides 112, 114, 122, and 124. These waveguides 112, 114, 122, and 124 are not used to form a micro-resonator. Frankly, Deacon '204 does not teach or suggest use of a micro-resonator structure of any type. Moreover, the core of the waveguides 112, 114, 122, and 124 are not being altered to correct the resonance position or the external decay time of these waveguides. Furthermore, there are no teachings or suggestions in Deacon '204 that a deposition or growth technique is being used to alter the core of their waveguides 112, 114, 122, and 124. Therefore, claim 1 is not anticipated by Deacon '204.

As to claims 3-5, 8, and 12, they are dependent on claim 1. Therefore, claims 3-5, 8, and 12 are also allowable for the same reasons argued with respect to claim 1.

Claims 1, 9, and 10 are rejected under 35 USC §102(b) as being anticipated by the article of Chu et al., "Wavelength Trimming of a Microring Resonator Filter by Means of a UV Sensitive Polymer Overlay".

Chu et al. describes trimming the resonant wavelength of a vertically coupled glass microring resonator channel dropping filter with a photo-induced refractive change in a dip coated polymer overlay.

However, Chu et al. does not describe using a deposition or growth technique to physically alter the core of its resonator, as recited in claim 1. The teachings in Chu et al. suggest a technique of permanent wavelength trimming by means of UV induced refractive index changes in a spin coated photosensitive polymer. Note change in the resonance condition occurs due to the change in the superstate cladding index. Thus, Chu et al. does not deposition or growth technique that alters the core of the resonator to correct the resonance position or the external decay time. Therefore, Chu et al. does not anticipate claim 1.

As to claims 9 and 10, they are dependent on claim 1. Therefore, claims 9 and 10 are also allowable for the same reasons argued with respect to claim 1.

In view of the above amendments and for all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the objections and rejections made under 35 U.S.C. §102. Accordingly, an early indication of allowability is earnestly solicited.

If the Examiner has any questions regarding matters pending in this application, please feel free to contact the undersigned below.

Respectfully submitted,

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